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investigated if the MTHFR C677T polymorphism modulates the risk of developing breast, rectal and lung cancer.

Material and Methods

Genotyping was performed by PCR-RFLP method on a sample of 103 patients diagnosed with histologically proven cancer (52 rectal, 26 lung, and 25 breast) and 186 healthy controls, respectively (60, 101, 25)

Results

Analyses of affected and controls show that homozygote genotype MTHFR 677CC has the highest frequency in both groups in lung and rectal localization, it was 65.38% in patients and 45.5% in control group in lung localization, 48% in patients with rectal localization and 55% in control group. In breast localization the distribution of the CC, CT and TT genotypes corresponded respectively to the proportions 40%, 55% and 5%. The odds ratio for the TT and CT genotypes was 1.42 (95% CI = 0.42-4.85) and the odds ratio for the TT and CT genotypes was 1.26 (95% CI = 0.07-21.49) and 0.69 (95% CI 0.21-2.29). We also demonstrated a modest increase in the risk of breast cancer in individuals with TT genotype compared to the general population (OR = 1.26; 95% CI = 0.07-21.49).

Conclusion

Despite the low rate of enrolled population in our study, we can conclude based on the results of our study that a significant association between lung, rectal cancer and C677T polymorphism might exist.

EP-1365 F-FDG-PET/CT metabolic features as prognostic and predictive factors in lung tumors undergoing SBRT

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Purpose or Objective

Stereotactic body radiation therapy (SBRT) is an effective treatment for patients with lung tumors (both primitive and secondary) who are not candidates for surgery. For patients treated with SBRT, there are relatively few studies that examined predictors of regional and/or distant progression and agreement among them is poor. As several studies have shown that the analysis of baseline F-FDG PET/CT features has predictive and prognostic significances in several types of cancers, including oropharyngeal, esophageal and sarcoma, we hypothesized that imaging-based features could identify patients with lung tumors treated with SBRT who are at highest risk for progression. The aim of this study is to assess the prognostic impact and predictive role of the maximum standardized uptake value (SUV max), the metabolic tumor volume (MTV), the total lesion glycolysis (TLG) and SUV max lesion/SUVmax liver (rPET) and their correlation with local control, overall survival (OS) and progression-free survival (PFS) in patients treated with stereotactic body radiation therapy (SBRT) for primitive or secondary lung tumors undergoing pretreatment [F-18]

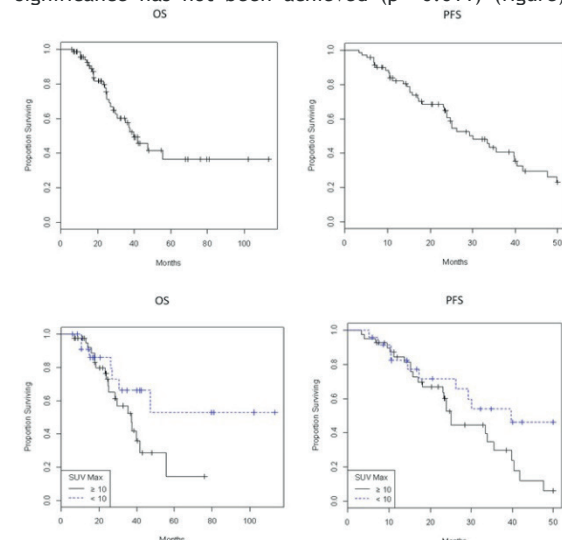
fluoro- D-glucose-positron emission tomography/computed tomography (F-FDG PET/CT) imaging.

Material and Methods

Between September 2009 to December 2016, 70 patients with 85 medically inoperable lung tumors were treated with SBRT and underwent a F-FDG PET/CT before the treatment. Median age was 73 years. SBRT schedules were 60/55/50 Gy in 5 fractions or 54 Gy in 3 fractions. The effects of clinical-pathological factors including primary tumor SUV max, MTV, TLG and rPET on OS, PFS and local control (LC) were evaluated. Kaplan-Meier survival curves were produced and compared with the log-rank test.

Results

With a median follow-up for the population of 26 months, the median OS and PFS were 39.7 and 30.1 months, respectively. The 12- and 24-months OS for the entire cohort were 94% and 76%, respectively, with a 12- and 24-months PFS of 81% and 60%, respectively. On univariate analysis SUV max of tumor, (cut-off: 10), showed a mild correlation with OS, even if statistical significance has not been achieved (p= 0.611) (figure).



Multivariate Cox analysis showed that non analysed parameters were related to OS [(SUVmax p: 0.446); TLG (p: 0.294); MTV (p:0.568)] and PFS [(SUVmax p: 0.648); TLG (p: 0.414); MTV (p: 0.981)]. Wilcoxon test showed that no correlation was observed between SUVmax (p: 0.6988), MTV (p: 0.6761), TLG (p: 0.8495), SUVmax tumor/SUV max liver ratio (rPET) and local control.

Conclusion

The prognostic value of SUVmax and other PET related factors in patients with lung tumors remains controversial and many reports have indicated that it has positive or negative associations with outcome. In our study no significant association was found between SUVmax, MTV, TLG and rPET and clinical outcomes such as OS, PFS or LC in patients affected by lung tumors treated with SBRT.

EP-1366 Different toxicity rating patients and physicians in randomized phase III PCI vs obs stage III NSCLC

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Purpose or Objective

The NVALT-11/ DLORG-02 randomized trial showed that PCI reduced the incidence of symptomatic brain metastases from 30.7 % to 8.1 %. Here, we report the differences between the adverse events (AE) reporting between patients and physicians.

Material and Methods

Randomization between PCI or observation in radically treated stage III NSCLC. Primary endpoint: incidence of symptomatic brain metastases; secondary endpoints: OS, AE reported by patients and physicians, QoL.

Results

175 patients were randomized, 87 PCI and 88 observation.

Patients reported AE: dizziness, headache, hypersomnia, memory impairment and vomiting. For patients, only grade 1-2 headache occurred significantly more frequently in the PCI group. Physicians reported AE occurring significantly more in the PCI arm: G1-2 memory impairment, cognitive disturbance, fatigue, headache, fatigue.

Differences in AE reporting by patients and physicians: Table 1. Reported by the patient but not by the physician: Memory impairment in 40/88 (45 %) and in 27/87 (31 %); fatigue in 40/88 (45 %) and in 27/87 (31 %); headache in 29/88 (33 %) and 28/87 (32 %) in the observation and PCI arms, respectively.

Conclusion

Many AEs were only reported by the patient; the results also may suggest physician bias in AE reporting. PROs should be part of outcome measurements.

EP-1367 Cardiovascular disease and survival in lung cancer: a multicenter prospective assessment

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Purpose or Objective

Inflammation plays a central role in the development of both lung cancer and cardiovascular disease (CVD) and CVD is frequently seen in patients with non-small cell lung cancer (NSCLC). Chronic inflammation is associated with an increased cell turnover with the potential of

generating genetic errors, stimulate angio-neogenesis, and apoptosis and plays a role in the pathogenesis of CVD with an influence on all stages of the disease. We hypothesized that self-reported CVD is an independent risk factor for survival in lung cancer. Our hypothesis was studied in a prospective multicenter cohort study.

Material and Methods

Prospective multicenter data from 345 consecutive NSCLC patients that were seen in consultation in the radiation oncology departments of 2 Institutions from January 2013 to January 2017 was available. Median follow-up was 13 months (range, 0.1-45 months). Thirty-two percent of patients (N=109) had baseline CVD. Specifically, 29 patients (27%) had arrhythmia, 10 (9%) hypertensive CVD, 9 (8%) heart failure, 5 (5%) valvulopathy, 40 (37%) ischaemic heart disease, and 16 (15%) others. A total of 289 patients (82%) were treated with platinum-based chemotherapy (CT), 41% of them concomitant with radiation therapy (RT); 300 patients (87%) received thoracic RT; and 50 (15%) patients underwent surgery. Clinical-pathological and therapeutic characteristics were assessed for overall survival (OS) as primary endpoint using univariate and multivariate COX regression analysis.

Results

Our cohort consisted of 305 men (88%) and 40 (12%) women, with a median age of 67 years old (range, 31-88 years). Most of them (70%) had a Karnofsky performance status (KPS) ≥ 80 . The most common histologies were adenocarcinoma (36%) and squamous cell carcinoma (54%). Most of patients were stages IIIA (40%) and IIIB (40%). The median radiation dose was 61 Gy (range, 12-70). Multivariate analyses showed worse OS in patients with advanced stages ($p=0.009$). Patients treated with surgery, RT or CT associated with better OS (HR 0.36, $p<0.001$; HR 0.42, $p=0.001$; HR 0.46, $p<0.001$, respectively). CVD was associated with poorer OS (HR = 1.44; CI: 1.07-1.93; $p=0.016$). Additionally, CVD associated with a higher risk of distant metastasis (HR = 1.46; CI: 1.04-2.05; $p=0.026$). Within the CVD, we specifically found that hypertensive CVD and heart failure associated with lower OS (HR = 1.92; CI: 1.14-3.24; $p=0.013$).

Conclusion

Self-reported CVD is associated with worse OS and higher risk of distant metastasis in NSCLC patients. Chronic inflammation associated with CVD seems to be a major pathophysiologic factor in the development of distant metastasis. Our genetic constitution may be crucial for the susceptibility of a distinct inflammation, a task for future studies.

EP-1368 Lung cancer 3D-CRT: Evaluation of V5 constraint compliance and incidence of radiation pneumonitis

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Purpose or Objective

Radiation-induced pneumonitis (RP) is a serious complication after lung cancer radiotherapy. Several studies have seen that keeping V5<60-65% plays a very important role in preventing this unwanted effect and has been established as predictive of RP incidence.

The purpose of this work is to analyse lung dose-volume data, evaluate our degree of V5 compliance and the incidence of RP in our patients.

Material and Methods

We retrospectively selected 114 patients who underwent 3D-CRT for locoregional advanced lung cancer in our centre from January 2014 to September 2017. The patients were treated with radiotherapy alone,